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Dear Sir:

Cities of Los Angeles and Pasadena, Calif., have withdrawn from cooperative arrangements with the USAEC to build 50,000 kw improved cycle boiling-water reactor at Haskell Canyon in Los Angeles County. Plant was to be a prototype of a 300,000 kw station at the same location. The two cities said the withdrawal was for a variety of reasons. Primarily it was because of hydrological and meteorological doubts about the site raised by the Commission's Advisory Committee on Reactor Safeguards, especially for a larger power complex. Also a deterrent were anticipated increases in the estimated cost of power from the plant due partially to the site limitations and also because of higher fuel, operation and maintenance charges which were not foreseen when the cities submitted their joint proposal to build the prototype plant. Originally the Haskell Canyon site had been approved by the ACRS with the reservation that the atomspheric dispersion characteristics be determined before construction started. Nevertheless, a larger power complex would be imprudent the Committee reported. (The project was to have a $12.5 million reactor supplied by General Electric Co., the bidder selected by the USAEC. Subsequently the GE contract was withdrawn, and the job given to Allis-Chalmers Manufacturing Co. It is now the intention of the USAEC to invite new proposals for the ICBWR project; failing that it will be built at a government site.) (Other POWER PLANT NEWS, p.5 this LETTER.)

Audits are underway by General Accounting Office of USAEC's uranium purchase contract with U. S. mining and milling firms, newly revised under stretch-out program. With some features of the contracts under criticism, new group has been organized by the uranium producers. The Uranium Mining and Milling Industry group of the Atomic Industrial Forum will attempt to resolve industry problems, especially government relations. Making up the group is Anaconda Co.; Hidden Splendor Mining Co.; Kermac Nuclear Fuels Corp.; Vitro Corp. of America; Rare Metals Corp. of America; Uranium Reduction Co.; Utah Construction & Mining Co.; and Phillips Petroleum Co. (Other BUSINESS NEWS, p.2 this LETTER.)

Gamma radiographic cameras, sources and equipment developed and marketed by Radionics Inc., Norristown, Pa., will be sold under the Norelco name in the U. S. and Canada by Philips Electronics Instruments. Philips Electronics is operated in the U. S. as a subsidiary of Philips Electronics and Pharmaceutical Industries Corp. Corporate control is in Philips A. G., the Dutch concern. Radionics will continue to market independently its new line of nuclear gages sold under the Micro-Meter trade-name. (Other MANUFACTURERS' NEWS, p.3 this LETTER.)

Sharp Laboratories, Inc., La Jolla, Calif., has made agreement with Baird-Atomic, Inc., Cambridge, Mass., under which B-A will be exclusive sales representatives in the U. S. and Canada for nuclear instrumentation produced by the Sharp firm. These include the firm's manual and automatic counting systems used in low level detection of alpha and beta activities; its system for automatic assay of gamma well activities; and Sharp's solid state readout system.

ATOMIC ENERGY BUSINESS NEWS...

NEW ORGANIZATION ESTABLISHED: Martin Radioactive Materials Laboratory is being set up by The Martin Co., Baltimore, to use strontium-90 and irradiated materials from the USAEC which would be processed into strontium-90 and curium-242 fuel capsules. This is in connection with Martin's contracts with the Commission for development of devices for nuclear auxiliary power (SNAP project). The laboratory will occupy part of the former Curtiss-Wright Quehanna, Pa., research facility which Martin has leased from Pennsylvania State University the present owner who received it as a gift from C-W. The company will receive strontium-90 from the USAEC in batches of 100 kilocuries as a separated fission product. The company will also get 12 kilocuries of curium-242 produced by irradiating capsules containing americium-242 in a USAEC materials testing reactor. Present plans call for the strontium-90 power sources to be used in two 30-watt units. One of these units would be used to charge storage batteries on a Navy floating weather station. The other would be used by the Coast Guard to supply electric power for a land-based flashing navigational light. The curium power sources may be used in NASA project under which a soft landing of instruments on the moon is planned for 1963. The curium would provide low power electrical energy for the instruments to report lunar conditions to the earth.

NEW REPRESENTATIVES FOR INSTRUMENT MANUFACTURER: Patterson Moos research division of Leesona Corp. has appointed Falcon Aeronautics, Washington, D.C. to represent it in that area, and Frank J. Hoder, of Barrington, R.I., to handle its sales in the New England area. Patterson-Moos does work in physics and nuclear sciences, in mechanical engineering, etc. It has developed nuclear batteries, radiation instrumentation and dosimeters, thermoelectric materials, and various ordnance devices.

INSURANCE REGULATIONS AMENDED: In amendment to financial protection requirements and indemnity agreement regulations (10 CFR 140) private insurance protection required of reactor licensees to qualify for government indemnity against third party liability (under Price-Anderson Act) will be increase moderately on some reactors located in more highly-populated areas. Reactors affected are General Electric's reactor at Vallecitos, Calif., and Westinghouse Electric's reactor at Waltz Mill, Pa. New formula for computing the financial protection provide base amount of the insurance ($150,000 times the megawatt rating of the reactor) multiplied by a location factor of 1 to 2; minimum amount is $1 million. (Location factor used in old regulation was 1 to 1.5. The two nuclear insurance syndicates, NEILIA and MAELU had urged 1 to 4 as more realistic range.)

NUCLEAR AIRCRAFT PROGRAM UNDER REVIEW: Program for powering an aircraft with nuclear power is among a group of weapons and project systems which the Department of Defense has under review according to deputy defense secretary R. L. Gilpatrick. The new administration is considering the decision of the Eisenhower administration to reduce development of nuclear-powered airplane to a single technical approach instead of the two under consideration: the direct cycle approach of General Electric Co., and the Pratt & Whitney indirect cycle. The Joint Congressional Committee on Atomic Energy has urged reconsideration of the Eisenhower decision.

DIVERSIFIED FIRM IN NUCLEAR FIELD HAS LOSS FOR 1960: General Dynamics Corp., for the nine months ended September 30, 1960 reported a net loss of about $25 million after a $30 million tax credit. This reflected a pre-tax write-off of $96.5 million in past and future charges against the company's Convair commercial jet airliner program. Further write offs had offset a profit in the fourth quarter. The company estimates a profit will be shown for 1961. Production at the firm's Electric Boat division has declined recently but is expected to rise with additional orders the company expects to get for two submarines of the Polaris type. Electric Boat production is exclusively devoted to nuclear-powered undersea craft. The company also has its General Atomic division, among other nuclear activities.

SUPREME COURT GETS APPEAL OF POWER REACTOR PERMIT: Brief submitted to Supreme Court by USAEC points out that nuclear power will be curtailed if reactor must be located in remote areas. The court is considering USAEC's appeal of a lower court decision voiding construction permit for Power Reactor Development Corp's fast breeder reactor at Lagoona Beach, Mich. The brief argues that the law does not require proof of complete safety before a construction permit is issued. Rather, the USAEC states, it requires only reasonable assurance that a reactor can be safely built and operated at the site.

PRODUCTS, PROCESSES, INSTRUMENTS...

PRODUCT NEWS: Kit of five commonly used radioisotopes which can be purchased without a license from the USAEC is being marketed by Nuclear-Chicago Corp., Des Plaines, Ill. The kit, called the Model RNS-110 radionuclide set, consists of lead-210/bismuth-210; cobalt-60; cerium-144/praseodymium-144; zinc-65; and carbon-14. Sample pans, a syringe, micropipettes, and instruction manual are included in the kit.

Major price reduction has been made by the USAEC for technetium-99, radioisotope sold through the USAEC's Oak Ridge National Laboratory. Price is now $100 per gram, with minimum charge of $10 for one-tenth gram or less. The previous price ranged from $1600 to $2800 per gram, depending on amount purchased. (Technetium-99, which does not occur naturally, is used principally for research purposes. Some studies, however, have shown that it has promise as a corrosion inhibitor.)

New 512 channel analyzer, Model ND-120, is being marketed by Nuclear Data, Inc., Madison, Wisc. The instrument is based on the company's Model ND-102, 256 channel analyzer with various circuit improvements.

MANUFACTURERS' NEWS: Experimental work by General Electric people at the company's Vallecitos, Calif., laboratory has shown that plasma diodes may be a way to obtain a sizeable increase in the electrical output of nuclear power plants at slight additional cost. These high temperature diodes use cesium gas and produce an electrical current by boiling electrons off a uranium-bearing cathode plate. They are built directly into fuel elements in a nuclear power reactor. The heat from uranium fission, much of which is normally lost, provides the temperature needed, which is about 4500 deg. F. Electrical leads from the fuel elements draw off the electricity and add it to that produced from conventional turbines. GE people expect that an advanced diode may be ready for pilot runs in a prototype reactor by 1966, with commercial applications possible by 1970.

Magnion, Inc., Cambridge, Mass., is new firm organized by William E. Barbour to furnish research and development and production services in the field of magnetic systems. The company expects that its work may be applied in plamma and thermonuclear studies, nuclear research and other applications of magnet technology. Mr. Barbour was president of Tracerlab, Inc., at that company's inception and most recently had set up Controls for Radiation, Inc.

Experimental work in Japan at that country's Atomic Energy Research Institute has resulted in process for producing phenol by irradiation of benzene. Showa Denko, Japanese graphite manufacturer has carried on pilot work and expects to put the process into commercial production some time this Fall.

Green River, Utah, uranium ore upgrading plant of Union Carbide Nuclear Co. was closed last week. The company believes it more economic to ship the ore which was processed at Green River to plants in Uravan and Rifle, Colo., where it will be processed into yellowcake.

Construction of two-story plant in Flushing, L.I., has been started by Specialty Electronics Development Corp., Syosset, L.I., to expand and consolidate the firm's production facilities. The company is manufacturer of radiation detection devices, communications equipment, and related electronic instruments.

Radiochemical laboratories of Tracerlab, Inc., Waltham, Mass., have completed recent government contract for synthesis of radioactive rocket fuel. The propellant in question, unsymmetrical dimethyl hydrazine, was tagged by Tracerlab with carbon-14. Using the labeled material, aero space medical division of Wright Air Development Command will conduct experimental work aimed at gathering data on its metabolic fate in the human body. (UMDH, an interesting new propellant, has high toxicity. Further, its chemical characteristics have eluded detection and isolation in the body fluids of those who have been exposed to its harmful vapors. The labelled material may enable tracer work to show its body action.)

Mobile low power prototype reactor (ML-1) designed and constructed for the USAEC by Aerojet-General Corp., has been shipped to the Commission's national reactor testing station, Arco, Idaho. Pre-startup testing is scheduled to begin immediately. On completion of the testing, the reactor skid will be coupled to the power conversion system now under construction by Aerojet and expected to arrive at the station in mid-Summer. A joint development for the Department of Defense by the USAEC and Army's Corps of Engineers, the ML-1 specifications require that it be skid mounted and transportable by truck-trailer, aircraft, train or barge. It is a direct-cycle, gas-cooled system designed to produce 330 electrical kw, and the U. S.'s first closed-cycle, gas-cooled nuclear power plant.

RAW MATERIALS...prospecting, mining, marketing...

BERYLLIUM CONCESSION PURCHASED: Standard Beryllium Corp., New York, has purchased the Boa Vista concession in Brazil of which it is now the sole owner and operator. Seller was Icombra S.A. Standard Beryllium had been purchasing ore from several mining companies in the area, but had not participated in the actual mining. Boa Vista consists of over 1700 acres some 200 miles north of Rio de Janeiro. Its beryllium is in the form of beryl. Indicated reserves are estimated at 14,820,000-tons, assaying an average of 3% beryl for the total area. Standard Beryllium plans to extract the beryl and other minerals with a mill which has been ordered, and which is expected to handle some 100,000 tons of crude ore per year.

LITHIUM REFINERY IN OPERATION: Quebec Lithium Corp.'s new refinery in Northwestern Quebec has now been worked up to an output rate of 10,000-lbs. per day of lithium carbonate. Production on a steady basis had started January, 1961. Current rate is said by refinery people to be about two-thirds of refinery capacity and involves feed to the plant of about 35 tons per day of lithium concentrate, which is produced by the company's adjacent mill and concentrator. (Output of the carbonate, which is of pharmaceutical grade, is expected to be well received by the trade. Process used is one developed and patented by the Quebec Department of Mines.)

NEW BOOKS & OTHER PUBLICATIONS...

Nuclear Reactor Containment Building and Pressure Vessels. Proceedings of an international symposium held at Royal College of Science and Technology, Glasgow, May 17-20, 1960. Some 22 papers summarize current practice and outline future trends. -- Butterworth Scientific Publications, London, England. ($18.50)

Isotope Effects on Reaction Rates. Lars Melander. Useful text on the subject. 181-pages. -- Ronald Press Co., New York, N.Y. ($6.00)

Excavation with Nuclear Explosives. Investigations at Lawrence Radiation Laboratory, University of California. No. UCRL-5917. (75¢).....Evaluation of the Factors Influencing Stability of Large Underground Cavity. Work done at University of Illinois. 81-pages. No. AECU-4654. ($2.00).....Some Seismic Effects of Underground Explosions in Cavities. Work at Los Alamos Scientific Laboratory. No. LA-2405 ($1.25).....Single Scattered Neutrons from an Isotropic Point Source. National Bureau of Standards technical note No. 63. 11-pages. No. PB-161,564 (50¢)..... Calibration of Five Gamma-Emitting Nuclides for Emission Rate. NBS technical note No. 71. 23-pages. No. PB-161,572. (75¢). -- Office of Technical Services, Wash. 25, D.C.

Materials in Nuclear Applications. Proceedings of three symposia at American Society for Testing Materials meeting Oct. 12-16, 1960, held in San Francisco, Calif. Special publication no. 276. -- American Society for Testing Materials, 1916 Race St., Philadelphia, Pa. ($8.25).

Radioisotope Laboratory Techniques, 2nd edition. R. A. Faires, B. H. Parkes, -- Pitman Publishing Corp., New York ($5.75)

Radioactivation Analysis. Bibliography of some 263 references compiled at UKAEA Wantage Laboratory. Covers the literature from June 1957 to July 1960. No. AERE I/R 2208 (suppl. 1). -- H. M. Stationery Office, London, England (4s. 6d.)

NOTES: Power Reactor Technology, December, 1960, discusses new results in reactor technology for civilian applications. Single issues are 55¢; annual subscription is $2.00. Information, etc., from Sup't. of Documents, Wash. 25, D.C.

List No. 62 of "Publications Available to the Public" has been issued by the U. K. Atomic Energy Authority. Copies may be obtained from the UKAEA at 11 Charles II St., London S.W. 1, England.

MANUFACTURERS' LITERATURE: New eight page illustrated brochure offered by Radiation Dynamics, Inc., Westbury, N.Y. covers the company's design and manufacture of its Dynamitron high voltage accelerator, applications of the machine in areas of basic research, etc. It may be obtained from the company at Westbury Industrial Park, Westbury L.I., N.Y.

Carbon-14 compounds, tritium compounds, labeled nucleosides and other related compounds available from New England Nuclear Corp., Boston 18, Mass., are described in brochure available from the company.

ATOMIC ENERGY CONTRACT NEWS...

BIDS ASKED: Invitations have been extended industrial firms by New York State's Office of Atomic Development for expressions of interest in operating under contract the proposed State-owned nuclear by-product concentration and storage site. Some $300,000 for acquisition of the site was appropriated by the State legislature last month. The state will give preference in selecting a contractor to companies which will set up in the vicinity of the site related privately-sponsored processing, manufacturing or research activity, in addition to the work which will be done for the state.

CONTRACTS AWARDED: Associated Nucleonics, Inc., Garden City, L.I., has been selected by the USAEC from some 28 firms submitting bids as architect-engineer for the Army's irradiation facility at the Quartermaster Research & Engineering Center, Natick, Mass. The company is subsidiary of Stone & Webster Engineering Corp. The Natick facility will use two radiation sources: a 1 million curie cobalt-60 source and a 24 Mev linear accelerator. Estimated cost of the project is some $1.8 million. Funds will be provided by the Army, although the contract will be administered by the USAEC's New York Operations Office. (Use of radiation in preservation of foods, particularly meats, has found taste alteration a stumbling block. Some time ago Congress had authorized pilot plant at Sharpe General Depot, Stockton, Calif., to test commercial possibilities of process on a large-scale production basis. The project was cancelled in 1959 by Richard S. Morse shortly after he became research and development director of the Army, after animal experiments tended to show harmful effects from eating the irradiated foods. Subsequent experiments seemingly reversed these findings. Decision was later made that Quartermaster Corps should continue with laboratory program using high-level radiation for sterilization of certain foods, mostly meats, while the USAEC would experiment with low-level dosage in prolonging the shelf life of fish, fruits and vegetables.)

Some nine expressions of interest have been received by the USAEC from cooperatively and publicly-owned utility organizations to participate in a nuclear power demonstration project involving a 50,000 net electrical kw organic cooled and moderated power reactor. This was in response to invitations issued December, 1960. The utility participating in the program would be expected to provide a suitable site and the conventional facilities, to operate the plant for at least five years as part of its electricity generation and distribution system, and to purchase steam from the reactor. The nuclear steam supply system, including the reactor, would be financed principally by the USAEC; Congress has authorized $25 million for the project. Specific research and development for the project and the conceptual design of the reactor and associated equipment is being performed by Atomics International, Canoga Park, Calif.

ATOMIC ENERGY PATENT DIGEST...

PATENTS ISSUED February 14, 1961 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS: (1) Pocket radiation dosimeter. John W. Baum, inventor. No. 2,972,051 assigned to Armour Research Foundation, Chicago, Ill. (2) Radioactive logging apparatus. Laymond W. Wann, inventor. No. 2,972,052 assigned to Continental Oil Co., Ponca City, Okla.

PATENTS ISSUED February 14, 1961 to GOVERNMENTAL ORGANIZATIONS: (1) Filter media and method of manufacture. Walter J. Smith, inventor. No. 2,971,907 assigned to USAEC.

PATENTS ISSUED February 21, 1961 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS: (1) Air particle monitor. Nicholas Anton, inventor. No. 2,972,678 issued to inventor of record. (2) Ion generator and method. William W. Hicks, John C. Beckett, inventors. No. 2,972,680 assigned to Ionaire, Inc., San Francisco, Calif. (3) Radioactivity well logging. Alexander S. McKay, Ralph C. Reynolds, inventors. No. 2,972,682 assigned to Texaco, Inc.

Sincerely,

The Staff,
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